MMM MMM TTTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMM MMM TTTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMM MMM TTTTTTTTTTTTTTTT AAAAAAAAA AAAAAAAAA CCCCCCCCCCCC PPPPPPPPPPPP
MMMMMM MMMMMM TTT AAA AAA AAA AAA CCC PPP PPP
MMMMMM MMMMMM TTT AAA AAA AAA AAA CCC PPP PPP
MMMMMM MMMMMM TTT AAA AAA AAA AAA CCC PPP PPP
MMM MMM MMM TTT AAA AAA AAA AAA CCC PPP PPP
MMM MMM MMM TTT AAA AAA AAA AAA CCC PPP PPP
MMM MMM MMM TTT AAA AAA AAA AAA CCC PPP PPP
MMM MMM TTT AAA AAA AAA AAA CCC PPPPPPPPPPPP
MMM MMM TTT AAA AAA AAA AAA CCC PPPPPPPPPPPP
MMM MMM TTT AAA AAA AAA AAA CCC PPPPPPPPPPPP
MMM MMM TTT AAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAA CCC PPP
MMM MMM TTT AAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAA CCC PPP
MMM MMM TTT AAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAA CCC PPP
MMM MMM TTT AAA AAA AAA AAA CCC PPP
MMM MMM TTT AAA AAA AAA AAA CCC PPP
MMM MMM TTT AAA AAA AAA AAA CCC PPP
MMM MMM TTT AAA AAA AAA AAA CCCCCCCCCCCC PPP
MMM MMM TTT AAA AAA AAA AAA CCCCCCCCCCCC PPP
MMM MMM TTT AAA AAA AAA AAA CCCCCCCCCCCC PPP

FILEID**ACCFL

```
  AAAAAA      CCCCCCCC    CCCCCCCC  FFFFFFFFFF  LL
  AAAAAA      CCCCCCCC    CCCCCCCC  FFFFFFFFFF  LL
AA      AA  CC          CC          FF          LL
AA      AA  CC          CC          FF          LL
AA      AA  CC          CC          FF          LL
AA      AA  CC          CC          FF          LL
AA      AA  CC          CC          FFFFFFFF    LL
AA      AA  CC          CC          FFFFFFFF    LL
AAAAAAAAAA  CC          CC          FF          LL
AAAAAAAAAA  CC          CC          FF          LL
AA      AA  CC          CC          FF          LL              ....
AA      AA  CC          CC          FF          LL              ....
AA      AA    CCCCCCCC    CCCCCCCC  FF          LLLLLLLLLL      ....
AA      AA    CCCCCCCC    CCCCCCCC  FF          LLLLLLLLLL      ....


LL            IIIIII      SSSSSSSS
LL            IIIIII      SSSSSSSS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II        SSSSSS
LL              II        SSSSSS
LL              II              SS
LL              II              SS
LL              II              SS
LL              II              SS
LLLLLLLLLL    IIIIII    SSSSSSSS
LLLLLLLLLL    IIIIII    SSSSSSSS
```

```
;     1          0001  0
;     2          0002  0 MODULE ACCFL (LANGUAGE (BLISS32),
;     3          0003  0                 IDENT = 'V04-000'
;     4          0004  0                 ) =
;     5          0005  1 BEGIN
;     6          0006  1 !
;     7          0007  1 !**************************************************************************
;     8          0008  1 !*                                                                        *
;     9          0009  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                              *
;    10          0010  1 !*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                *
;    11          0011  1 !*  ALL RIGHTS RESERVED.                                                  *
;    12          0012  1 !*                                                                        *
;    13          0013  1 !*  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED  *
;    14          0014  1 !*  ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE  *
;    15          0015  1 !*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER  *
;    16          0016  1 !*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY  *
;    17          0017  1 !*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY  *
;    18          0018  1 !*  TRANSFERRED.                                                           *
;    19          0019  1 !*                                                                        *
;    20          0020  1 !*  THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE  *
;    21          0021  1 !*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT  *
;    22          0022  1 !*  CORPORATION.                                                           *
;    23          0023  1 !*                                                                        *
;    24          0024  1 !*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS  *
;    25          0025  1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                *
;    26          0026  1 !*                                                                        *
;    27          0027  1 !*                                                                        *
;    28          0028  1 !**************************************************************************
;    29          0029  1
;    30          0030  1 !++
;    31          0031  1 !
;    32          0032  1 ! FACILITY:  MTAACP
;    33          0033  1 !
;    34          0034  1 ! ABSTRACT:
;    35          0035  1 !       This module makes necessary changes to i/o data base to allow access.
;    36          0036  1 !
;    37          0037  1 ! ENVIRONMENT:
;    38          0038  1 !
;    39          0039  1 !       Starlet operating system, including privileged system services
;    40          0040  1 !       and internal exec routines.
;    41          0041  1 !
;    42          0042  1 !--
;    43          0043  1
;    44          0044  1 !
;    45          0045  1 !
;    46          0046  1 ! AUTHOR:  D. H. Gillespie,      CREATION DATE: 17-MAY-77
;    47          0047  1 !
;    48          0048  1 ! MODIFIED BY:
;    49          0049  1 !
;    50          0050  1 !       V02-003 REFORMAT        Maria del C. Nasr       30-Jun-1980
;    51          0051  1 !
;    52          0052  1 !       A0002   SPR27676        Maria del C. Nasr       14-Dec-1979  16:17
;    53          0053  1 !               Update transaction count in VCB for each file access and
;    54          0054  1 !               deaccess.
;    55          0055  1 !
;    56          0056  1 !**
;    57          0057  1
```

```
;    58          0058  1 LIBRARY 'SYS$LIBRARY:LIB.L32';
;    59          0059  1
;    60          0060  1 REQUIRE 'SRC$:MTADEF.B32';
;    61          0444  1
;    62          0445  1 EXTERNAL ROUTINE
;    63          0446  1     ALLOCATE,                       ! allocate non_paged system space
;    64          0447  1     IO_DONE;                        ! returns IO packet
;    65          0448  1
;    66          0449  1 EXTERNAL
;    67          0450  1     IO_PACKET    : REF BBLOCK;      ! address of current IO request packet
;    68          0451  1
```

```
;    70          0452  1 GLOBAL ROUTINE ACCESS_FILE (ORIGINAL_ACC, PID, READ_ACCESS, WRITE_ACCESS, ABD)
;    71          0453  1     : COMMON_CALL NOVALUE =
;    72          0454  1
;    73          0455  1 !++
;    74          0456  1 !
;    75          0457  1 ! FUNCTIONAL DESCRIPTION:
;    76          0458  1 !       This routine makes necessary changes to i/o data base to allow access.
;    77          0459  1 !
;    78          0460  1 !CALLING SEQUENCE:
;    79          0461  1 !       ACCESS_FILE(ARG1,ARG2,ARG3,ARG4,ARG5)
;    80          0462  1 !
;    81          0463  1 ! INPUT PARAMETERS:
;    82          0464  1 !       ARG1 - Original access request
;    83          0465  1 !       ARG2 - PID of process requesting access
;    84          0466  1 !       ARG3 - read access requested(0 - no, 1 - yes)
;    85          0467  1 !       ARG4 - write access requested(0 - no, 1 - yes)
;    86          0468  1 !       ARG5 - address of buffer descriptors
;    87          0469  1 !
;    88          0470  1 ! IMPLICIT INPUTS:
;    89          0471  1 !       CURRENT_UCB     - address of current unit control block
;    90          0472  1 !       CURRENT_VCB     - address of current vcb
;    91          0473  1 !       LOCAL_FIB       - copy of user's fib
;    92          0474  1 !
;    93          0475  1 ! OUTPUT PARAMETERS:
;    94          0476  1 !       None
;    95          0477  1 !
;    96          0478  1 ! IMPLICIT OUTPUTS:
;    97          0479  1 !       CURRENT_WCB - address of window control block
;    98          0480  1 !
;    99          0481  1 ! ROUTINE VALUE:
;   100          0482  1 !       None
;   101          0483  1 !
;   102          0484  1 ! SIDE EFFECTS:
;   103          0485  1 !       enable write back of window
;   104          0486  1 !
;   105          0487  1 !--
;   106          0488  1
;   107          0489  2     BEGIN
;   108          0490  2
;   109          0491  2     EXTERNAL REGISTER
;   110          0492  2         COMMON_REG;
;   111          0493  2
;   112          0494  2     LOCAL
;   113          0495  2         WINDOW  : REF BBLOCK;           ! address of window for this file
;   114          0496  2
;   115          0497  2     MAP
;   116          0498  2
;   117          0499  2         ! address of buffer descriptors
;   118          0500  2         !
;   119          0501  2         ABD     : REF BBLOCKVECTOR [, ABD$C_LENGTH];
;   120          0502  2
;   121          0503  2     EXTERNAL
;   122          0504  2         LOCAL_FIB       : BBLOCK,       ! copy of user's file information block
;   123          0505  2
;   124          0506  2         ! address of current unit control block
;   125          0507  2         !
;   126          0508  2         CURRENT_UCB     : REF BBLOCK,
```

```
;  127     0509  2
;  128     0510  2          ! address of current window control block
;  129     0511  2          !
;  130     0512  2          CURRENT_WCB     : REF BBLOCK;
;  131     0513  2
;  132     0514  2      ! create window
;  133     0515  2      !
;  134     0516  2      WINDOW = ALLOCATE(WCB$C_LENGTH + 6);
;  135     0517  2      WINDOW[WCB$B_TYPE] = DYN$C_WCB;
;  136     0518  2
;  137     0519  2      ! initialize window
;  138     0520  2      !
;  139     0521  2      WINDOW[WCB$L_WLFL] = .CURRENT_VCB;          ! link to vcb
;  140     0522  2      WINDOW[WCB$L_WLBL] = .CURRENT_VCB;
;  141     0523  2      WINDOW[WCB$V_READ] = .READ_ACCESS;          ! read access specified
;  142     0524  2      WINDOW[WCB$V_WRITE] = .WRITE_ACCESS;        ! write access specified
;  143     0525  2      WINDOW[WCB$L_PID] = .PID;                   ! pid of requester
;  144     0526  2
;  145     0527  2      ! current unit control block address
;  146     0528  2      !
;  147     0529  2      WINDOW[WCB$L_ORGUCB] = .CURRENT_UCB;
;  148     0530  2      WINDOW[WCB$W_ACON] = .ORIGINAL_ACC<0, 16>;  ! access control bits saved
;  149     0531  2      WINDOW[WCB$W_NMAP] = 0;                     ! prevent virtual io
;  150     0532  2
;  151     0533  2      ! address of relative volume table
;  152     0534  2      !
;  153     0535  2      WINDOW[WCB$L_RVT] = .CURRENT_VCB[VCB$L_RVT];
;  154     0536  2
;  155     0537  2      ! put unit to receive io in mapping pter
;  156     0538  2      !
;  157     0539  2      (WINDOW[WCB$W_P1_COUNT])<0, 32> = .CURRENT_UCB;
;  158     0540  2      CURRENT_WCB = .WINDOW;                      ! current window control block
;  159     0541  2      CURRENT_VCB[VCB$L_WCB] = .WINDOW;           ! note window address
;  160     0542  2
;  161     0543  2      ! not partial file since access establishes handles on it
;  162     0544  2      !
;  163     0545  2      CURRENT_VCB[VCB$V_PARTFILE] = 0;
;  164     0546  2
;  165     0547  2      ! increase transaction count
;  166     0548  2      !
;  167     0549  2      CURRENT_VCB[VCB$W_TRANS] = .CURRENT_VCB[VCB$W_TRANS] + 1;
;  168     0550  2
;  169     0551  2      ! enable write back of window
;  170     0552  2      !
;  171     0553  2      ABD[ABD$C_WINDOW, ABD$W_COUNT] = 4;
;  172     0554  2      .ABD[ABD$C_WINDOW, ABD$W_TEXT] + ABD[ABD$C_WINDOW, ABD$W_TEXT] + 1 =
;  173     0555  2                                  .WINDOW;
;  174     0556  2      IO_DONE(.IO_PACKET);                        ! complete IO
;  175     0557  2      IO_PACKET = 0;                              ! indicate IO has been completed
;  176     0558  1      END;                                        ! end of routine


                                                                    .TITLE  ACCFL
                                                                    .IDENT  \V04-000\

                                                                    .EXTRN  ALLOCATE, IO_DONE
                                                                    .EXTRN  IO_PACKET, LOCAL_FIB
```

```
                                                        .EXTRN  CURRENT_UCB, CURRENT_WCB

                                                        .PSECT  $CODE$,NOWRT,2

                                                        .ENTRY  ACCESS_FILE, Save R2                    ; 0452
                                                        PUSHL   #54                                     ; 0516
                                                        CALLS   #1, ALLOCATE
                                                        MOVB    #18, 10(WINDOW)                         ; 0517
                                                        MOVL    CURRENT_VCB, (WINDOW)                   ; 0521
                                                        MOVL    CURRENT_VCB, 4(WINDOW)                  ; 0522
                                                        INSV    READ_ACCESS, #0, #1, 11(WINDOW)         ; 0523
                                                        INSV    WRITE_ACCESS, #1, #1, 11(WINDOW)        ; 0524
                                                        MOVL    PID, T2(WINDOW)                         ; 0525
                                                        MOVL    CURRENT_UCB, 16(WINDOW)                 ; 0529
                                                        MOVZWL  ORIGINAL_ACC, 20(WINDOW)                ; 0530
                                                        MOVL    32(CURRENT_VCB), 28(WINDOW)             ; 0535
                                                        MOVL    CURRENT_UCB, 48(WINDOW)                 ; 0539
                                                        MOVL    WINDOW, CURRENT_WCB                     ; 0540
                                                        MOVL    WINDOW, 56(CURRENT_VCB)                 ; 0541
                                                        BICB2   #1, 11(CURRENT_VCB)                     ; 0545
                                                        INCW    12(CURRENT_VCB)                         ; 0549
                                                        MOVL    ABD, R2                                 ; 0553
                                                        MOVW    #4, 2(R2)
                                                        MOVZWL  (R2), R1                                ; 0554
                                                        PUSHAB  1(R2)[R1]                               ; 0555
                                                        MOVL    WINDOW, @(SP)+
                                                        PUSHL   IO_PACKET                               ; 0556
                                                        CALLS   #1, IO_DONE
                                                        CLRL    IO_PACKET                               ; 0557
                                                        RET                                             ; 0558

; Routine Size:  109 bytes,    Routine Base:  $CODE$ + 0000

;  177          0559  1
;  178          0560  1 END
;  179          0561  1
;  180          0562  0 ELUDOM



;                                   PSECT SUMMARY
;
;       Name                    Bytes                           Attributes
;
;  $CODE$                            109  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)


;                                 Library Statistics
;
;                                          -------- Symbols --------      Pages       Processing
;       File                               Total    Loaded   Percent      Mapped      Time
```

```
;
;  _$255$DUA28:[SYSLIB]LIB.L32;1              18619        25         0      1000          00:01.9



;                                       COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:ACCFL/OBJ=OBJ$:ACCFL MSRC$:ACCFL/UPDATE=(ENH$:ACCFL)

; Size:         109 code + 0 data bytes
; Run Time:        00:07.7
; Elapsed Time:    00:29.8
; Lines/CPU Min:    4396
; Lexemes/CPU-Min: 20378
; Memory Used:  89 pages
; Compilation Complete
```

DIGITAL EQUIPMENT CORPORATION
CONFIDENTIAL AND PROPRIETARY

CALDAYNO
LIS

SYSFAC
DAT

ACPCTR
LIS

ALLOCB
LIS

SYSMSG
LIS

CHKACC
LIS

MTAACP

ACCESS
LIS

MTAAACP
MAP

ACCFL
LIS

CALCTV
LIS

BLOCK
LIS

CLOSFL
LIS

MTADEF
B32-

CHKDMO
LIS